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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,866	11/18/2003	Joerg Kruse	8317-PA01CP	5606

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EXAMINER

CARRILLO, BIBI SHARIDAN

ART UNIT PAPER NUMBER

1746

DATE MAILED: 10/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/715,866

Applicant(s)

KRUSE, JOERG

Examiner

Sharidan Carrillo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 17-24 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15 and 16 is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-24 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-4 and 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reimelt (5950681) in view of McCune (3139704).

Reimelt teaches a process for renovating pipes. The process involves drying the pipe with preheated air then drawing the abrasive agents through the pipe, then coating the inner wall of the pipe with a metered quantity of coating material. All of the steps include the application of a suction to an end of the pipe. Reimelt fails to teach the second flowrate at the second port (outlet) being faster than the input flow rate. Reimelt however does teach that the force at which the abrasive particles are torn away increases towards the outlet of the pipe. McCune teaches cleaning a pipe with an abrasive mixture followed by coating of the interior of the pipe. In col. 6, lines 50-68, McCune teaches increasing the efficiency of the process by increasing the outlet

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velocities. The higher outlet velocities scour the pipe's interior more efficiently than the lower velocity. Col. 8, lines 15-35 teaches increasing the outlet velocities. It would have been obvious to a person of ordinary skill in the art to have modified the method of Reimelt to include an increased outlet velocity as taught by McCune, for purposes of increasing the efficiency at which cleaning occurs. Additionally, it would have been within the level of the skilled artisan to increase the velocity in the piping since the effectiveness of the blasting with the abrasive is directly proportional to the velocity at which the abrasive strikes the contaminants present in the interior surface of the piping. In reference to claims 2-3, refer to col. 2, lines 53-57, col. 6, lines 1-17, col. 8, lines 15-31. In reference to claim 4, refer to the abstract of Reimelt. In reference to claim 9, refer to col. 4, lines 18 of Reimelt. In reference to claim 10, refer to the abstract of Reimelt. In reference to claim 11, refer to col. 3, lines 30-45 of Reimelt. In reference to claims 12-13, refer to col. 3, lines 1-9. In reference to claim 14, refer to col. 4, lines 35-40, col. 4, lines 50-51 of Reimelt.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reimelt (5950681) in view of McCune (3139704), as applied to claims 1-4 and 9-14 as described in paragraph 7 above, and further in view of Naf (5499659).

Reimelt teaches coating with a resin or synthetic resin, but fails to specifically recite an epoxy resin. Naf teaches a method of repairing a conduit by cleaning with an abrasive substrate followed by coating with an epoxy resin. It would have been obvious to a person of ordinary skill in the art to have modified the method of Reimelt to include

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epoxy resin, as taught by Naf, which are conventionally used for repairing and renovating interior surfaces of conduits.

5. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reimelt (5950681) in view of McCune (3139704), as applied to claims 1-4 and 9-14 as described in paragraph 7 above, and further in view of Yamamoto et al. (4419163).

Reimelt in view of McCune teaches the invention substantially as claimed with the exception of coating the piping with a gas/liquid mixture. Yamamoto et al. teach a pipeline coating method. Yamamoto teaches applying a liquid sealant with compressed air, as a carrier gas, for coating the inner surface of a pipe. It would have been obvious to a person of ordinary skill in the art to have modified the method of Reimelt to include a gas/liquid mixture, as taught by Yamamoto, for purposes of repairing a pipe by coating the inner surface therein. In reference to claim 7, refer to col. 4, lines 21 of Reimelt. In reference to claim 8, refer to col. 4, lines 36-39 of Reimelt.

6. This application contains claim 17-24 drawn to an invention nonelected with traverse in Paper filed 08/01/2005. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Allowable Subject Matter

7. Claims 15-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach the limitations as recited in claim 15. Specifically, the prior art fails to teach adjusting the ratio between the first and second flow rates for each new pipe section to be cleaned to steer the gas and abrasive particle mixture in a predetermined direction along the selected pipe section. Claim 16 is allowable based on its dependency.

Response to Arguments

9. Applicant's election with traverse of claims 1-16 in the reply filed on 08/01/2005 is acknowledged. The traversal is on the ground(s) that the additional search represents undue burden because the use of the system would inherently result in the process as claimed. This is not found persuasive because the inventions are distinct for the reasons given previously and have acquired a separate status in the art as shown by their different classification.

The requirement is still deemed proper and is therefore made FINAL.

10. Applicant argues that Reimelt fails to teach a second flow rate being faster than the input flow rate. The above limitation is cured by the teachings of McCune, as previously discussed above since McCune teaches increasing the velocity at the outlet in order to improve cleaning efficiency. Applicant further argues that Reimelt fails to teach or suggest a combination of applying pressurized gas at a first port while simultaneously applying vacuum or suction at a second port. Applicant is directed to col. 5, lines 1-5 of Reimelt. Also refer to claims 1, 9, 14 and 15 of Reimelt. It is further

noted that Applicant admits that Reimelt teaches applying suction at an exit end, as described on page 9 of Applicant's response.

11. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both references are directed to pipe cleaning and further McCune teaches increasing the outlet velocity in order to improve cleaning efficiency, as described in col. 6, lines 55-65.

12. Applicant argues that neither of the references teach a vacuum flow rate higher than the inlet flow rate. McCune teaches increasing the outlet velocity. Since Reimelt teaches pressurized gas at a first port and suctioning at a second port and since McCune teaches increasing cleaning efficiency by increasing the outlet velocity, it would be well within the level of the skilled artisan and obvious to modify the flow rate of the suction of Reimelt at the second port (i.e. outlet) in order to increase the outlet velocity, as taught by McCune, thereby increasing cleaning efficiency.

13. Applicant argues that McCune teaches increasing the velocity by increasing the pressure or flow rate of the compressed gas applied at the inlet port. Applicant further argues that McCune fails to teach increasing the suction at the exit port. Applicant's arguments are unpersuasive because McCune teaches the desire to increase the

flowrate, thereby increasing the outlet velocity, thereby increasing cleaning efficiency.

Specifically, McCune teaches the general concept of increasing velocity by increasing the flow rate. Additionally, it is well within the level of the skilled artisan to increase the velocity by increasing the flowrate.

14. Applicant argues that Reimelt and McCune fails to the specific ratio. Applicant is directed to col. 8, lines 15-20 of McCune.

15. Applicant argues that Reimelt fails to teach applying a second layer of coating material. Applicant's arguments are unpersuasive. Reimelt teaches continuous coating, which would read on multiple layers until the normal thickness of the coating was reached.

16. Applicant argues that Reimelt does not teach using a vacuum pump. Applicant is directed to col. 4, lines 22-23 of Reimelt.

17. In reference to claim 5, applicant's arguments are not persuasive because applicant has not clearly indicated reasons why Naf fails to teach the claimed limitations. In reference to claim 6, applicant argues that there is not suggestion of pumping gas and liquid coating material into a first port at a first flow rate while applying suction at a second flow rate higher than the first flow rate. Applicant's arguments are unpersuasive since it would have been obvious to increase the flow rate at the outlet in quickly coat and provide a more efficient process. In reference to claims 7-8, applicant's arguments are not persuasive since col. 2, lines 50 teaches a compressed air generator and col. 4, lines 22 teaches a vacuum for suctioning.

18. In reference to claims 15-16, the rejection has been withdrawn and allowable subject matter indicated.

19. In an interview with Ms. Proctor, on 10/12/2004, the examiner discussed amending claim 1 to include the limitations of claim 15 in order to place the application in condition for allowance. However, an agreement could not be reached.

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharidan Carrillo whose telephone number is 571-272-1297. The examiner can normally be reached on Monday-Friday, 6:00a.m-2:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sharidan Carrillo
Primary Examiner
Art Unit 1746

bsc



**SHARIDAN CARRILLO
PRIMARY EXAMINER**